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A study of packet scheduling algorithms in long term evolution-advanced (Article)

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Abstract

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The allocation of radio resources is one of the most critical functions performed by the Radio Resource Management (RRM) mechanisms in the downlink Long Term Evolution-Advanced (LTE-Advanced). Packet scheduling concerns itself with allocation of these radio resources in an intelligent manner such that system throughput/capacity can be maximized whilst the required multimedia Quality of Service (QoS) is met. Majority of the previous studies of packet scheduling algorithms for LTE-Advanced did not take the effect of channel impairments into account. However, in real world the channel impairments cannot be obliterated completely and have a direct impact on the packet scheduling performance. As such, this work studies the impact of channel impairments on packet scheduling performance in a practical downlink LTE-Advanced. The simulation results obtained demonstrate the efficacy of RM2 scheduling algorithm over other scheduling algorithms in maximizing the system capacity and is more robust on the effect of the cellular channel impairments. Copyright © 2020 Institute of Advanced Engineering and Science. All rights reserved.

SciVal Topic Prominence ⓘ

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